**Turtles with teeth: Tomiodont morphology and functional significance in the Painted Turtle (*Chrysemys picta*)**

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The Painted Turtle (*Chrysemys picta*) has an upper jaw notch bordered on each side by tooth-like cusps called tomiodonts. For 180 years, these tomiodonts have been used as a descriptor in anatomy, phylogenetics, and natural history; however, no quantitative study of these traits or their function has ever been completed. Observations of *C. picta* from a long-term study in Algonquin Provincial Park (Ontario, Canada) have suggested that males have tomiodonts of more variable morphology and greater prominence than those of females. In addition, female *C. picta* in Algonquin Park have been regularly recorded with injuries on the nape indicative of bite wounds, possibly inflicted by the tomiodonts of males during mating. The putatively sexually dimorphic nature of the tomiodonts has raised a number of questions about their functional significance. We hypothesize that the tomiodonts confer a reproductive advantage to male *C. picta* owing to the use of these structures in securing mates. Discussion will focus on sexual dimorphism and *C. picta* tomiodont structure. Evidence for the functional significance of the tomidonts, including the demography of bite wounds in an Algonquin Park *C. picta* population and experimental trials to assess courtship and pre-copulatory behaviours, will be introduced. In short, we propose a coercive mating strategy and test for sexual dimorphism and the functional significance of the tomiodonts in the reproduction of *C. picta*.